

A new species of *Cutervodesmus* KRAUS, 1957, from the environs of Manaus, Central Amazonia, Brazil, with notes on the genus (Diplopoda: Polydesmida: Fuhrmannodesmidae)

by

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Abstract

Cutervodesmus simplex n.sp. is described from the environs of Manaus, Brazil. This new species differs from other congeners, including *C. adisi* GOLOVATCH, 1992, the only other member of the genus known from the Manaus area, by the virtually unmodified male head, anterior somites and/or legs as well by certain details of gonopod structure. *Venezuelodesmus* TABACARU, 1996, erected recently for three species from Venezuela, is formally synonymized under *Cutervodesmus* KRAUS, 1957 (syn. n!). This makes *Cutervodesmus* one of the most prolific genera among Neotropical Fuhrmannodesmidae, with no fewer than seven species currently established from Venezuela (3), Peru (2), and Central Amazonia of Brazil (2).

Keywords: Diplopoda, Fuhrmannodesmidae, taxonomy, Amazon, Manaus.

Resumo

Cutervodesmus simplex n.sp. é descrito dos arredores de Manaus, Brasil. Esta espécie nova difere de outras congêneras (o único membro do gênero conhecido de Manaus, *C. adisi* GOLOVATCH, 1992, incluído) pela cabeça essencialmente inalterada do macho, pelos somitos anteriores e/ou pelas pernas, como também em certos detalhes na estrutura dos gonópodos. *Venezuelodesmus* TABACARU, 1996, estabelecido recentemente para três espécies da Venezuela, é formalmente sinonimizado sob *Cutervodesmus* KRAUS, 1957 (syn. n!). Isso torna *Cutervodesmus* um dos gêneros mais prolíficos entre os Fuhrmannodesmidae neotrópicos, com não menos que sete espécies atualmente estabelecidas da Venezuela (3), do Peru (2), e da Amazônia Central do Brasil (2).

Introduction

In general, the Manaus fuhrmannodesmid faunule can be considered as one of the best known in the entire Neotropical Region, with no fewer than seven genera and 13 species involved (GOLOVATCH 1994). Their distribution among the few relatively well explored localities in the environs of Manaus (e.g., ADIS 1992) seems highly patchy, with virtually none of the species occurring at two places or habitats at once. This pattern nicely confirms the earlier impression that, at least in the Manaus area, every few hundred square meters of forest, be it flooded or on terra firme, support its own, basically original millipede faunule (GOLOVATCH et al. 1995).

Keeping this in mind, it is hardly surprising that, having recently made some pitfall trapping in a previously completely unexplored non-inundated secondary forest near Manaus, Dr. ADIS and his collaborators have found yet one more new fuhrmannodesmid, which is described below. This appears to represent a new species of *Cutervodesmus*, surprisingly little-modified (= primitive) as compared to most of its congeners. The opportunity is taken also to discuss its affinities and even to formally synonymize a recently established genus under *Cutervodesmus*.

The holotype of the new species will be deposited in the collection of the Instituto Nacional de Pesquisas da Amazônia.

Description

Cutervodesmus simplex n.sp. (Figs. 1-3)

Holotype: male, Brazil, Edo. Amazonas, environs of Manaus, Lago Janauari, 60°17'W, 02°34'S, secondary upland forest, 13.02.1996; leg. J. ADIS.

Name: Emphasizes the surprisingly unmodified head, anterior somites and legs in the male.

Diagnosis: Differs from congeners in the virtually unmodified head, anterior somites and legs in the male coupled with certain details of gonopod structure.

Description: Length ca. 5 mm, width 0.6 mm. Colour entirely pallid.

Body with 20 segments. Head virtually unmodified, only vertex with an inconspicuous patch of particularly dense micropilosity (Fig. 1). Antennae moderately long, clavate, in situ surpassing somite 3 dorsally (Fig. 1); antennomeres 5 and, especially, 6 each with an evident distodorsal patch of sensilla, antennomere 6 with a tiny dorsal knob at about midway. Head subequal in width to somites 2-3, considerably broader than collum but only slightly narrower than somite 4 or 5. Body broadest and parallel-sided on somites 5-15(16), onward very gently and gradually tapering. Surface mostly dull, shagreened, microreticulate. Paraterga relatively modestly developed (Figs. 1 and 2), set rather low (mostly at about 1/3 midbody height), poorly rimmed, distinctly incised laterally to support marginal setae, more or less broadly rounded caudally until somite 4, onward increasingly beak-shaped, slightly surpassing rear tergal contour only on a few posteriormost somites. Tergal setae relatively long, seti- to bacilliform, arranged in usual three rows mostly on poorly expressed bosses; axial line and transverse metatergal sulcus faint but evident. Ozopores vague, (dorso)lateral, their location easily traceable due to precaudally sinuate paraterga. Pleurosternal carinae missing, only on somite 2 like a conspicuous bulge (Fig. 1). Epiproct moderately long, digitiform, rather broadly rounded at tip.

Sterna sparsely setose, unmodified. Legs unmodified, long, over 1.5 times as long as midbody height, probably somewhat incrassate as compared to female; each tibia with a particularly long distodorsal seta; tarsi particularly long and slender; claws small, inconspicuous.

Gonopods (Fig. 3) typical for the genus. Coxite quite voluminous, telopodites evidently retracted into

gonocoel. Femoral part swollen, with a mesal secciform outgrowth and a long, simple, slightly curved, subacuminate, strongly exposed distal branch. Solenomerite mesal, small, dentiform.

Discussion

The fuhrmannodesmid faunule of the Manaus area has hitherto been known to support 13 species (GOLOVATCH 1994), including only one *Cutervodesmus*. The above new form is readily distinguishable from the sympatric *C. adisi* GOLOVATCH, 1992, by the unmodified head, anteriormost terga, and legs. These obvious plesiomorphies along with the relatively simple (= primitive?) gonopods seem to suggest a less derivative ecology as well. Whereas *C. adisi* appears to be restricted to blackwater inundation selva (ADIS et al. 1996), *C. simplex* inhabits an "Inselberg" supporting a patch of secondary non-inundated forest. In other words, the considerably more rigorous flooded habitat of *C. adisi* seems to correlate with the species' highly elaborate morphological structure and advanced ecological traits, the latter implying seasonal vertical migrations into the tree crown stratum to escape inundations. Unfortunately, virtually nothing can be said about the ecology of *C. simplex*, though the fact that its holotype has been collected using pitfall trapping also suggests terri- rather than arboricolous of this definitely more primitive species.

The genus *Cutervodesmus* KRAUS, 1957, has hitherto been known to encompass only three species: *C. niger* KRAUS, 1957 (the type-species), *C. similis* KRAUS, 1959, both from Peru, and the above *C. adisi*, from the environs of Manaus, Brazil. When reviewing the entire Neotropical fauna of the family Fuhrmannodesmidae (GOLOVATCH 1994), I pointed out the presence of at least one more congener reported by TABACARU (1993) from Venezuela. Since then, TABACARU (1996) has not only described a new genus, *Venezuelodesmus*, to embody no fewer than three new Venezuelan species: *V. decui* TABACARU, 1996 (the type-species), *V. orghidani* TABACARU, 1996, and *V. bordoni* TABACARU, 1996, but he also proposed a new tribe, *Venezuelodesmini*. He was certainly heavily impressed by the indeed strikingly modified male head, anteriormost somites and legpair 2 in *Venezuelodesmus*, to allot it an independent tribal status!

However, if one puts emphasis on gonopod traits, it becomes clear that *Venezuelodesmus* has been characterized by the following features: male genae supplied with a prominent lobe, somite 2 enlarged, sterna 4 and 5 or only sternum 5 supporting denticulate spines, and legpair 2 reduced and placed inside a long, obviously eversible sac. However, like *Venezuelodesmus*, *C. adisi* also displays a number of highly apomorphic, partly shared, peripheral characters: male head with a strong frontal protuberance, both collum and somite 2 strongly enlarged, and legpair 2 similarly reduced. At the other extreme, *C. simplex* has retained virtually all these structures in a plesiomorphic state. In my opinion, what makes the genus *Cutervodesmus* clearly defined, is the relatively strongly enlarged and excavate gonocoxite combined with a more or less slender, simple, strongly exposed telopodite, while the solenomerite can vary from large to virtually missing (GOLOVATCH 1994). Using such a diagnosis, there is no doubt whatever that TABACARU's *Venezuelodesmus* (and also his tribe *Venezuelodesmini*) is only a subjective junior synonym of *Cutervodesmus*. In other words, I propose the following formal taxonomic changes: *Venezuelodesmus* TABACARU, 1996 = *Cutervo-*

desmus KRAUS, 1957 (syn. n.); *C. decui* (TABACARU, 1996), *C. orghidani* TABACARU, 1996, and *C. bordoni* TABACARU, 1996), all comb. n. ex *Venezuelodesmus*.

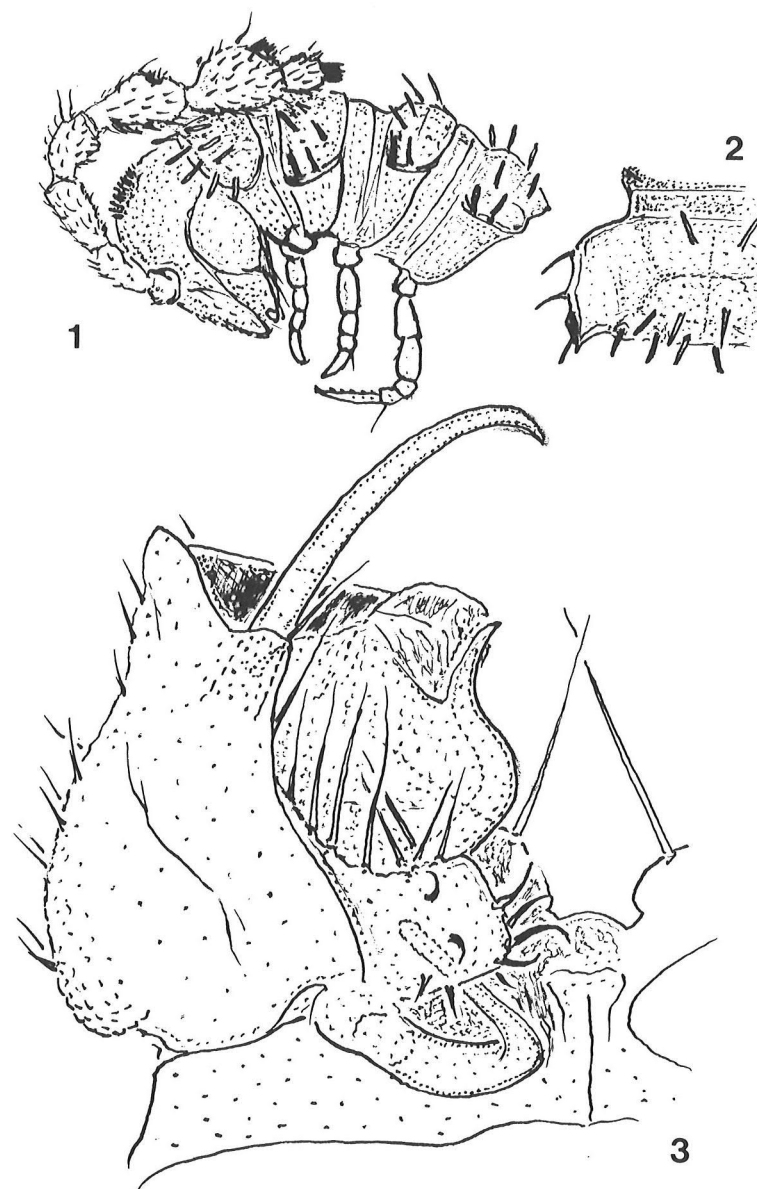
The above makes *Cutervodesmus* a nicely delimited and relatively important Neotropical fuhrmannodesmid genus currently encompassing seven species in Venezuela (3), Peru (2), and Central Amazonia of Brazil (2). There can be no doubt whatever that this figure is greatly underrepresented, while future advance in the knowledge of Neotropical diplopods will certainly reveal many more *Cutervodesmus* species.

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Figs. 1-3:

Cutervodesmus simplex n.sp., male holotype.

1: anterior body end, lateral; 2: somite 10, dorsal; 3: gonopod, caudal.

Scale bars 0.5 (1 & 2) and 0.1 mm (3).